Kalev Freeman MD PhD September 23, 2016 Testimony for Joint Legislative Justice Oversight Committee

Good afternoon. Thank you Senator Sears and Committee for the invitation today. My name is Kalev Freeman, and I am an emergency medicine physician and professor in the departments of surgery and pharmacology at the University of Vermont. My testimony will focus specifically on cannabis and opioid interactions. I'll try to show you the evidence – in the form of primary data published in peer-reviewed biomedical journals – that individuals are substituting cannabis for opioids with public health benefits.

Over the past 10 years of staffing emergency rooms in Rutland, Central Vermont and Burlington, I have witnessed from the front line this opioid epidemic exploding in front of us. I trained in the Boston City hospital where heroin overdoses were daily events, and when I moved to Vermont I was initially pleased to see how rare heroin overdoses were here. Pills, however, were already a real problem. In my first year here I remember giving a patient a vicodin starter pack for an injury, and then hearing that security arrested him in the waiting room, selling the pills to another patient. Over 1/3 of prescription drugs are diverted. Patients would come in daily with "drug-seeking behavior", and we were expected to sort out who had a real injury and who was looking to get pills they could sell. This has changed with the influx of cheap heroin, and pill mills that produce fentanyl, carfentanil, and other powerful synthetic opioids, and press them into pills that can pass for vicodin or percoset. The problem we are seeing now, is the overdoses. I was the MD on duty in Burlington this summer, called to resuscitate the couple who made the news for overdosing in public with a 5-year old child in the rear seat. Reversing the heroin in the parents was the easy part; trying to figure out what to do with the child was heartbreaking. This is why I am taking time out of work to come and speak with you today. I think we need to have a serious discussion about the potential for cannabis to be part of the solution for the opioid epidemic.

- Slide 1. Cannabinoids act on many of the same pain pathways as opioids but cannabinoid receptors are not found in the brainstem so overdoses are not lethal.
- Slide 2. Cannabinoid agonists are effective in all peripheral neuropathic pain models
- Slide 3. Cannabis provide an adjunct for opioids for treatment of pain.
- Slide 4. GW pharmaceuticals phase 3 trials of nabiximols (Sativex) show benefit for cancer pain
- Slide 5. JAMA meta-analysis provides the highest level of evidence for cannabis in treatment of chronic pain
- Slide 6. Patients with chronic pain successfully substitute medical cannabis for opioids
- Slide 7. Cannabis is considered an beneficial adjuvant at all steps of analgesic ladder
- Slide 8. States with medical cannabis laws have significantly lower state-level opioid overdose mortality rates.
- Slide 9. States with medical cannabis laws have fewer fatal crashes involving opioids

Together, this data suggests the adverse public health consequences of opioid use will decrease over time in states where medical marijuana use is legal, as individuals substitute marijuana for opioids in the treatment of severe or chronic pain.

However, in order to achieve this potential in Vermont, medical cannabis must be more accessible for Vermonters. States with mature medical cannabis programs have 1-2% of the population enrolled; that would extrapolate to 6-12,000 patients in VT. Current barriers to entry in the program include 1) physician reluctance to refer patients, 2) limited indications for use, 3) inability to administer cannabis based medicine in hospitals or respite homes, 4) restrictions on dispensaries that increase cost and limit distribution, 5) cumbersome application process, 6) out of pocket costs (insurance will pay for opioids but not cannabis). The state of VT allocates millions of dollars each year for expensive drugs like suboxone and buprenex. I would argue that if we want to be progressive and see a real impact in our opioid epidemic, we should consider similar investments in our local medical cannabis programs, to subsidize patient costs, and support research and develop treatment programs specifically targeting opioid reduction.